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ABSTRACT

This briefing paper discusses integrated curriculum, an approach to curriculum that educators believe will help students draw upon their school learning when facing everyday challenges. Integrated curriculum refers to the fusion of knowledge from different disciplines; the approach to learning and teaching from a variety of world views, strategies, and resources; and the tapping of real-life situations for problem solving and critical thinking in the classroom. There is only limited research to substantiate the success of curriculum integration, though existing models seem to confirm that it is a natural road for curriculum reform to take. Curriculum integration has mainly been accomplished by blending content knowledge from different disciplines around a common theme. Three approaches to curriculum integration include coordinated curriculum, project-based learning, and thematic curriculum. Integrated curriculum can help students in the Pacific Island region, who face issues related to cultural relevance in their education. Using integrated curriculum based on real-life tasks related to Pacific Island cultures can help them make sense out of their education. Many examples of successful curriculum in Pacific Island schools exist. Adopting integrated curriculum means preparing the faculty well, promoting teacher collaboration, developing new evaluation methods, and sharing resources. (Contains 12 references.) (SM)

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Integrated Curriculum: A Reflection of Life

by Luafata Simanu-Klutz*

In 1995, Universal City Studios released the Academy-Award winning movie *Apollo 13*. The movie depicts how astronauts James Lovell, Fred Haise, and Jack Swigert struggled to stay alive in the space shuttle, while back on earth, fellow astronaut Ken Mattingly, flight director Gene Krantz, and a "heroic ground crew raced against time—and the odds—to bring them home" (Video jacket, *Apollo 13*). *Apollo 13* had been just another routine space flight until the words "Houston, we have a problem!" pierced the Mission Control Center.

Many insights for educational reform can be gleaned from watching this film: The movie is an excellent illustration of collaboration among unlike people and shows their creativity in solving problems, for which they draw upon numerous skills, wide knowledge, many resources, and a powerful will to succeed. In short, it displays the kinds of tasks for which schools should prepare their students and highlights the need to integrate subject matter with real-life applications to enable students to solve problems in the world beyond the walls of school.

In numerous classrooms of today, students learn bits and pieces of knowledge, and too many leave formal education with little idea of how to apply to real life what they have learned for 12 or 13 years in their school life (Brady, 1996). Students also tend to be passive recipients of the knowledge handed down by teachers, rather than active seekers of problems to be solved. This state of affairs is often blamed on the division of the curriculum into separate subject-matter areas and the lack of real-life problems and issues that are dealt with in the classroom.

Integrated Curriculum: What Is It?

This briefing paper bears upon *integrated curriculum* or *curriculum integration*, an approach to curriculum that knowledgeable educators believe will help students draw on their school-learning when facing perhaps not an *Apollo 13* type crisis, but many everyday challenges. The term *curriculum* traditionally refers to the teaching content in one subject area. An *integrated curriculum* (IC), in a nutshell, refers to the fusion of knowledge from different disciplines; the approach to learning and teaching from a variety of world-views, strategies, and resources; and the tapping of real-life situations for problem solving and critical thinking in the classroom. According to Oberholtzer (1937),

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the philosophy underlying curriculum integration holds that education is the "creative grappling with the situations which the world continually puts before us....Education has the task of setting up programs so that the child may and will develop the ability to answer intelligently and faces courageously certain life problems with some skills in finding possible solutions" (p.15). More recently, William Malloy (1996) concluded that "curriculum is a potent tool for reform when it integrates and interrelates subjects and disciplines in a manner that makes learning experiences meaningful" (p.233).

Unfortunately there is, as of yet, only limited research to substantiate the success of curriculum integration. In spite of a natural fit between integrated curriculum and such "new-age" ideas as cooperative and collaborative learning, new math, whole language, and team teaching, to name a few, the evaluation of the practice and its effects have been sporadic and short-term. According to Tanner and Tanner (1995), part of the "quick-fix" attitude that has pervaded the reform movement for integrated curriculum has come about because educators do not take the time to look into education's history to find out whether an approach has been tried and what the results have been.

Perhaps the most passionate criticism against integrated curriculum comes from Paul S. George, in his article *Arguing Integrated Curriculum* (1996), in which he claimed that all the accolades about integrated curriculum are "unfounded, unsubstantiated, or both." He concluded that little evidence exists to show that integrated curriculum is more effective than good teaching of a traditional curriculum. His advice was "IC advocates continue to clarify the meaning of the term; conduct and publish credible research on IC results; and realize and appreciate the dedication and commitment of the thousands of educators not yet persuaded about wholesale, immediate IC adoption." Although at first glance, this may appear to be a doom-and-gloom attack on integrated curriculum, his admonishment should be seen as an invitation for teachers and administrators to understand this approach more thoroughly and to study it carefully.

Although decisive research on integrated curriculum is not yet in, existing models seem to confirm that the approach is a natural road for curriculum reform to take. Morris (1996) pointed out that curriculum reform of the 1980s was not very effective because it focused attention on content rather than application and thus restricted the possibilities of instructional change; the development of an integrated curriculum forces educators to pay attention to how people approach tasks in real life.

Approaches to Curriculum Integration

The integration of curriculum has been mostly accomplished by blending content knowledge from different disciplines around a common theme. Many interdisciplinary models that follow this approach exist (Newell & Klein, 1996). The National School-to-Work Learning and Information Center (1996) has developed a useful framework for curriculum integration around the preparation of students for actual occupations. It offers three possibilities:

1) In the *Coordinated Curriculum*, the course work is adjusted to allow different subject matter information to be learned concurrently around occupational themes. The themes are the "organizing principles" for integrating academic lessons, occupational study, and workplace experience. For example, with carpentry as an occupational theme, mathematics, science, and economics would be taught as they relate to carpentry.
2) In *Project-Based Learning*, instruction is around a project related to "an occupational or an on-the-job issue." Students apply and integrate knowledge and skills from various disciplines to solve problems. For instance, a project might be about the effects of workplace environ-

ment on performance and productivity. The students would search for relevant information in psychology, sociology, and science to understand relationships among human motivation, social and physical environment, and job performance. The outcome of such a project would be the development of recommendations for establishing good working conditions—or perhaps even implementation of the recommendations.

3) In the *Thematic Curriculum*, students organize their learning around questions or problems in their school-to-work occupational theme and then address them from a variety of disciplines.

The school-to-work framework includes facets of an integrated curriculum that go far beyond the classroom. School administrators, academic and occupational teachers, employers, and labor unions must collaborate in the development of a school-to-work integrated curriculum; decision-making must be decentralized; there must be flexible scheduling for learning in the workplace; teachers need to be given time for professional development and provided with support for creating the integrated curriculum; and teachers from different disciplines must be willing to work together in developing and in teaching integrated curricula.

Integrated Curriculum Has Promise for Pacific Island Students

Education in the Pacific faces numerous crises as the pressures of globalization mount. The traditional educational curriculum, compartmentalized into subject-matter, is prevalent in this region, and Pacific island children, like their counterparts on the U.S. Mainland, are often asked to memorize isolated bits of information without understanding how to apply them to their real world—their world often being even further removed from the classroom than for Mainland children. This form of schooling has created many failures, unkept promises, and social and economic inequities, not only for students attending Pacific-island schools, but for Pacific islanders attending college or seeking employment abroad.

The use of an integrated curriculum with Pacific island students has promise over and above the usual benefit of incorporating real-life problems into classroom learning: *An integrated curriculum, based on real-life tasks, is much more akin to Pacific island cultures and their traditional ways of teaching and learning than a standard curriculum and teaching approach.*

Like the crew of *Apollo 13*, many cultures in the Pacific understand the importance of combining resources and drawing upon different people's knowledge to get a job done or to resolve issues. In many cases today, problem solving is still done collectively; all people in a Pacific village, even children, are called upon, figuratively speaking, to bring what he or she can to the table or *malae*. This is particularly true in areas where people still live according to agrarian values and have not become so dependent on the outside world—areas where isolation forces people to share their resources, whether in building a canoe, house or church, or in planting or fishing.

Learning in the Pacific region traditionally took place in apprenticeship settings where the learner acquired knowledge and skills by working with experts on real-life tasks and problems. Vygotsky (in Bayer, 1990) described and studied this form of social learning through modeling and participation: As learners absorb knowledge and become more skilled, they are able to take over more and more of the task, and the support of the experts becomes unnecessary. For example, the intricate knowledge and skills to build a canoe or to navigate by the stars used to be acquired through apprenticeships. Nainoa Thompson's (1994) detailed description of how he became a traditional navigator, who can find his way across the huge Pacific Ocean without modern instruments, illustrates the valuable process of apprenticeship in learning important life skills.

A modern example of curriculum integration is *Pure Matua Designs*, a student-run cooperative T-shirt design business on Rota in the Commonwealth of the Northern Mariana Islands (Pacific Center News, 1997). *Pure Matua Designs*, which grew out of federal money to a general mathematics class at Rota High School, encourages student artists to create designs promoting the Chamorro culture. During the school year students can participate in the company by selecting it as a course in business math. The course content integrates mathematics and vocational skills through the actual running of the company. Students learn the fundamentals of owning a small business and in that process learn collaboration, cooperation, decision making, problem solving, marketing, accounting, communications, sales, and research and analysis.

Another example of an integrated curriculum for Pacific island students is found in *Environmental Education Teacher Training: A Teacher's Manual* (Dunne & Wendt, 1997). This teacher-training program, sponsored by the South Pacific Region Environmental Program (SPREP) with headquarters in Apia, Samoa, is wrapped around a curriculum in which children acquire knowledge and skills in mathematics, science, social studies, language arts, visual art, and music by learning about environmental issues.

As the above examples show, educators in the Pacific are already forging changes in the traditional curriculum. There are efforts to move toward integration of local knowledge and skills with the universal learning of science, mathematics, and social studies. Departments of education are beginning to consider the study of local world-views and resources as valid inclusions in the canons of modern education. And along with an integrated curriculum come team teaching, interagency collaboration, parent involvement, and community-based schooling. In essence, schooling is beginning to reflect more fully what happens in real life.

Avoiding Another Educational Fad

Education is susceptible to quick-fix solutions, fads, and swings of the pendulum in teaching practices. If the integrated curriculum approach is to avoid becoming another fad in Pacific education, then people who make policy and who are responsible for implementing an integrated curriculum should take time to understand its advantages and disadvantages, both short- and long-term, and to consider ways to sustain change over time. Following are a few of the points for policymakers to consider when they choose to adopt an integrated curriculum.

The Importance of a Well-Prepared Faculty

Adopting an integrated curriculum means a great deal of change—for teachers, educational administrators, parents, businesses, and the workforce. The burden of change falls heavily on teachers: Not only does it demand of them a re-thinking of subject-matter and teaching strategies, but it also requires broadening their subject-matter knowledge, learning unfamiliar teaching skills, and changing attitudes and self-perceptions—they, who have been the sole masters of their classrooms, now suddenly must work with other teachers and share with them all teaching duties. Such change requires much staff development. But the adoption of an integrated curriculum will only succeed with such staff development and with teachers who are committed to this approach.

Collaborative Planning

Collaboration must be part of the effort: collaboration among educators to develop the content of integrated curriculum; collaboration among teacher-partners to develop the daily learning activities and teaching schedules; collaboration between principles and teachers in developing a flexible

schedule for team-teaching; collaboration with parents to obtain their support; collaboration with experts in planning the curriculum and the instructional activities; and collaboration with businesses and the workforce.

Evaluation to Inform Practice

New ways of evaluation must be developed, as the old ways of evaluating traditional curriculum outcomes will not reflect what children are learning in an integrated curriculum. The information gathered must be of such a quality that it can lead and guide improvement.

Sharing Resources

Although it will be costly to implement the above components, an integrated curriculum may offset some of the costs by more efficiently distributing resources across disciplines. For instance, the integration of arts or language development with mathematics or science or both, can cut out the need for separate art or language lessons. As the Pure Matua Designs example shows, there may be a product to be sold for additional funds. Or, businesses may see benefits in having students learn skills in school rather than on the job and may support school programs that prepare students better for the workforce.

Conclusion

This paper can help policymakers when they consider educational reform based upon an integrated curriculum approach. The adoption of an integrated curriculum demands thorough understanding of the approach. Not only will the effort require extensive staff development, collaboration, and expensive resources, but also it will not be a guarantee to immediate success. Only by using an integrated curriculum approach for an extended period of time and working through the problems can the approach be perfected and be successful. An integrated curriculum holds much promise for raising students who will be able to apply their school-acquired knowledge to their work and to their personal development.

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